



**Animal Health and Food Safety Services  
Animal Health Branch**

**SURVEILLANCE CASE DEFINITIONS FOR WEST NILE VIRUS  
DISEASE IN EQUINES - 2006**

**NOTE: A HORSE WITH SIGNS OF ENCEPHALITIS MAY HAVE  
RABIES – TAKE PROPER PRECAUTIONS**

**CONFIRMED CLINICAL CASE:**

A horse with compatible clinical signs including ataxia (stumbling, staggering, wobbly gait, or in-coordination) or at least two of the following: fever, circling, hind limb weakness, inability to stand, multiple limb paralysis, muscle fasciculation, proprioceptive deficits, blindness, lip droop/paralysis, teeth grinding, or acute death.

Plus one or more of the following:

- Isolation of West Nile Virus from tissues<sup>1</sup>
- Detection of IgM antibody to WNV by IgM-capture ELISA in serum or CSF cerebral spinal fluid
- An associated 4-fold or greater change in plaque-reduction neutralization test (PRNT) antibody titer to WNV in appropriately timed<sup>2</sup>, paired sera
- Positive polymerase chain reaction (PCR)<sup>3</sup> for WNV genomic sequences in tissues<sup>1</sup>
- Positive IHC for WNV antigen in tissue (Note: this test has low sensitivity in equids)

**SUSPECT CLINICAL CASE<sup>4</sup>:**

- Compatible clinical signs

**EXPOSED EQUID:**

- Detection of IgM antibody to WNV by IgM-capture ELISA in serum or CSF without any observable or noted clinical signs.

Assumptions on which case definition is based:

- Antibody in serum may be due to vaccination or a natural exposure; additional testing must be done to confirm WNV infection in a vaccinated horse.
- IgM antibody in equine serum is relatively short-lived; a positive IgM-capture ELISA means exposure to WNV or rarely a closely related flavivirus (SLE) has occurred, very likely within the last three months.

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<sup>1</sup> Preferred diagnostic tissues are equine brain or spinal cord; although tissues may include blood or CSF, the only known reports of WNV isolation or positive PCR from equine blood or CSF have been related to experimentally infected animals.

<sup>2</sup> The first serum should be drawn as soon as possible after onset of clinical signs and the second drawn at least seven days after the first.

<sup>3</sup> For horses it is recommended that rt-nested polymerase chain reaction assay be used to maximize sensitivity of the test (Emerg Infect Dis. 2001 Jul-Aug; 7(4):739-41)

<sup>4</sup> An equine case classified as a suspect case should, if possible, undergo further diagnostic testing to confirm or rule out WNV as the cause of the clinical illness.